March 12, 2007

H.R. 1068 – To amend the High-Performance Computing Act of 1991

Floor Situation

H.R. 1068 is being considered on the floor under suspension of the rules and will require a two-thirds majority vote for passage. This legislation was introduced by Representative Brian Baird (D-WA) on February 15, 2007. The bill was ordered to be reported from the Committee on Science and Technology, by voice vote, on February 28, 2007.

H.R. 1068 is expected to be considered by the House on March 12, 2007.

Note: An identical bill, H.R. 28, passed in the House of Representatives by voice vote on April 26, 2005. H.R. 28 was received by the Senate, but no action was taken.

Summary

H.R. 1068 would amend the High-Performance Computing Act of 1991 to:

➢ Provide for long-term basic and applied research on high-performance computing;

➢ Provide for research and development on, and demonstration of, technologies to advance the capacity and capabilities of high-performance computing and networking systems;

➢ Provide for sustained access by the research community in the United States to high-performance computing systems that are among the most advanced in the world in terms of performance in solving scientific and engineering problems, including provision for technical support for users of such systems;

➢ Provide for efforts to increase software availability, productivity, capability, security, portability, and reliability;

➢ Provide for high-performance networks, including experimental tested networks, to enable research and development on, and demonstration of, advanced applications enabled by such networks;

➢ Provide for computational science and engineering research on mathematical modeling and algorithms for applications in all fields of science and engineering;

➢ Provide for the technical support of, and research and development on, high-performance computing systems and software required to address Grand Challenges;

➢ Provide for educating and training additional undergraduate and graduate students in software engineering, computer science, computer and network security, applied mathematics, library and information science, and computational science; and,

➢ Provide for improving the security of computing and networking systems, including research required to establish security standards and practices for these systems.

H.R. 1068 also requires the Director of the Office of Science and Technology Policy (OSTP) to:

➢ Establish the goals and priorities for Federal high-performance computing research, development, networking, and other activities;

➢ Establish Program Component Areas that implement the goals established for the Program and identify the Grand Challenges that the Program should address;

➢ Provide for interagency coordination of Federal high-performance computing research, development, networking, and other activities undertaken pursuant to the Program;

➢ Develop and maintain a research, development, and deployment roadmap for the provision of high-performance computing systems for use by the research community in the United States.

Background
The High-Performance Computing Act of 1991 (S. 272) was signed into law by President George H.W. Bush on December 9, 1991 (PL 102-194). The legislation was sponsored by Sen. Albert Gore.

S. 272 led to the development of the National Information Infrastructure, the National Research and Education Network, the High-Performance Computing and Communications Initiative, and the creation of a high-speed fiber optic network.

The purpose of S. 272 was to help ensure the continued leadership of the United States in high-performance computing and its applications by:

➢ Expanding Federal support for research, development, and application of high-performance computing in order to:

  o establish a high-capacity and high-speed National Research and Education Network;

  o expand the number of researchers, educators, and students with training in high-performance computing and access to high-performance computing resources;

  o promote the further development of an information infrastructure of data bases, services, access mechanisms, and research facilities available for use through the Network;

  o stimulate research on software technology;

  o promote the more rapid development and wider distribution of computer software tools and applications software;

  o accelerate the development of computing systems and subsystems;

  o provide for the application of high-performance computing to Grand Challenges;

  o invest in basic research and education, and promote the inclusion of high-performance computing into educational institutions at all levels; and,

  o promote greater collaboration among government, Federal laboratories, industry, high-performance computing centers, and universities; and

➢ Improving the interagency planning and coordination of Federal research and development on high-performance computing and maximizing the effectiveness of the Federal Government's high-performance computing efforts.

Cost
H.R. 1068 has not been scored by the Congressional Budget Office.

Note: H.R. 1195, passed in the 109th Congress was estimated by the CBO to cost $87 million over the 2006-2010 period to implement, assuming appropriation of the authorized amounts.

Staff Contact
For questions or further information contact Luke Hatzis at (202) 226-2302.